DEC 12 1957

DECEMBER 1957

FIREMEN

SIXTY-SECOND YEAR • NATIONAL FIRE PROTECTION ASSOCIATION

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DURA-FOG

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- FLOATING GLAND TYPE SHUT OFF
- SHOCK ABSORBENT SHUT OFF MECHANISM
- NO KICK BACK
- RUBBER BUMPER
- STURDY HANDLE

PLATE 261

FOG CHIEF

- COMPACT
- ADVANTAGE OF SHUT OFF, STRAIGHT STREAM, AND A VARIETY OF FOG PATTERNS
- OPERATES EASILY UNDER HIGH PRESSURE
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PLATE 262

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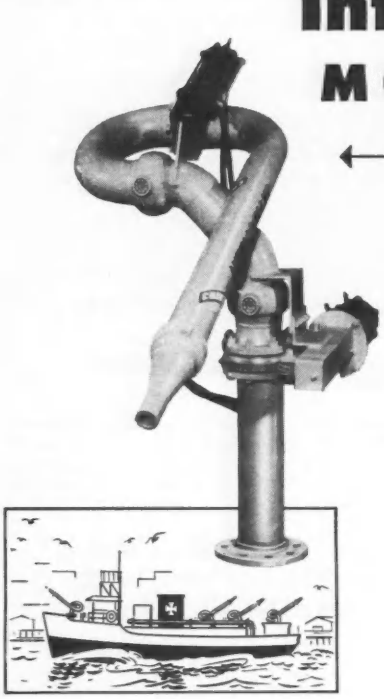

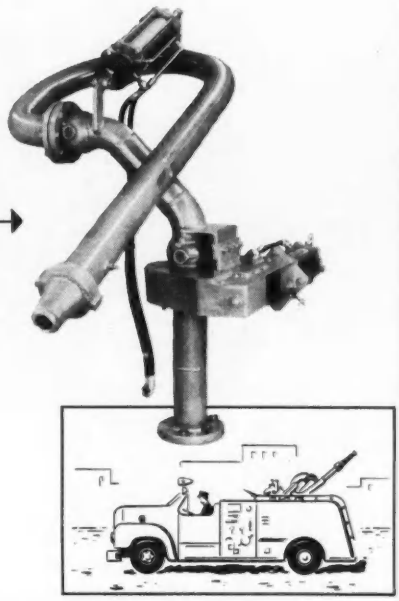

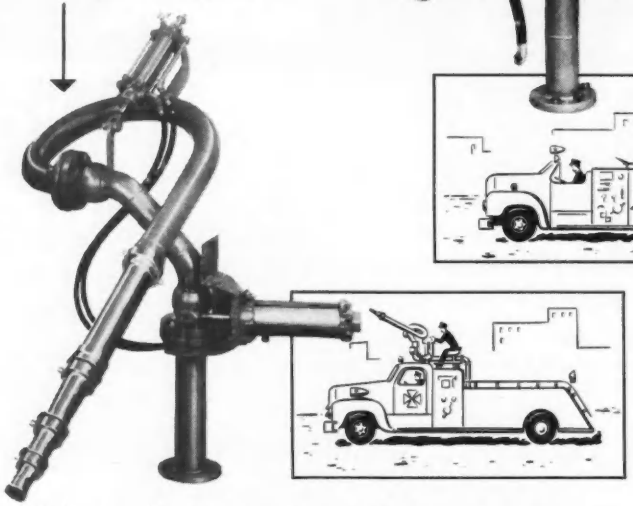

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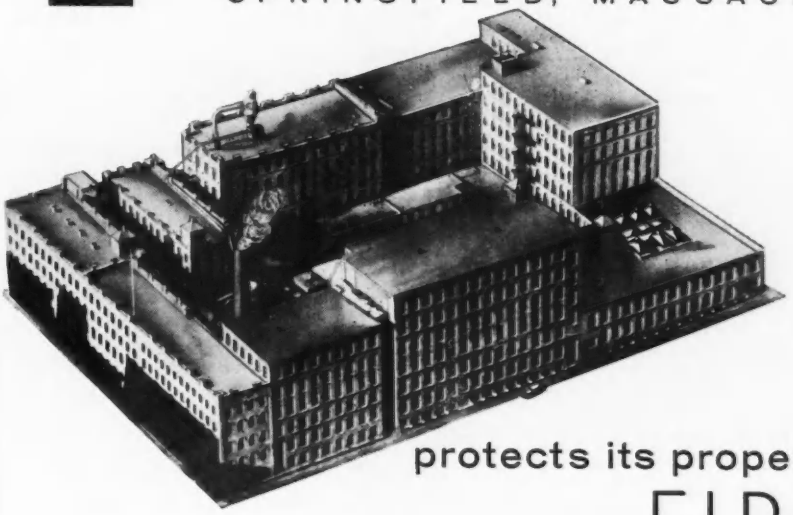

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Chief Steve Adley
Pittsburgh
Fire Department
Pittsburgh, Pennsylvania

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Volunteer Fire Department
Mt. Lebanon, Pennsylvania

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Volunteer Fire Department
Baldwin Township, Pennsylvania

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Chief William H. Thuer
U.S. Steel,
Homestead Plant Fire Department
Homestead, Pennsylvania

"I wouldn't trade my membership in IAFC for anything. We have a continuing training program here, and IAFC bulletins and publications are our handbooks. Another thing, we get lots of information on hand fire extinguishers. Helps us keep our guard up because of tips on use and maintenance."

Your membership in the IAFC will mean as much to you as it does to these other Chiefs

These comments from active members give you some idea of the wealth of help and information that goes with a membership in the International Association of Fire Chiefs, Inc. And each year these services are expanding to help keep pace with the need for more effective and efficient fire fighting.

This year, for example, there will be special mailings from the National Board of Fire Underwriters, National Fire Protection Association, Federation of Mutual Insurances Companies, and many others. All dealing with your problems and needs. Special publications are in the works, ranging from a revised edition of Radiation and Monitoring Manual to selected papers from the Fire Departments Instructors' Conference. In other words, a complete library that keeps your fire service up-to-date.

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Firemen

Volume 24 — Number 12

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Civil Defense

Because of the devastating fire effects of modern warfare so well documented in NFPA's book "Fire and the Air War," and because of the fire and conflagration aspects of atomic warfare, our Association has taken an active interest in the civil defense movement since its early inception. During World War II, NFPA's General Manager was Chairman of the Industrial Protection Council of the federal Office of Civil Defense and NFPA's Chief Engineer has served almost continuously on the Fire Advisory Committee at the national civil defense level. Both Mr. Bugbee and Mr. Bond served on the original East River study of civil defense and the subsequent Nelson Committee which made the reappraisal a few years later of the original study. We have incurred the active dislike of many federal civil defense administrative staff people because of our critical view of much of the program, because of our failure to have any enthusiasm for the evacuation program, and presently for the shelter program. The present proposals call for the expenditure of many billions of dollars to provide deep underground shelters for our urban populations in the heart of our congested cities. We have felt that these plans were not only totally unrealistic and unworkable but that they were the most efficient means that could be devised to kill off large segments of our population quickly in the event of fire storm developing from atomic attack. We have advocated strongly the idea that existing emergency services in our cities, such as the fire department, should be the backbone of civil defense organization and effort and our views have not been popular with top administrators at FCDA.

The various stands that we have taken with respect to these matters received strong and eloquent support in the person of Robert Moses writing the lead article in *Harper's Magazine* for November 1957 entitled "The Civil Defense Fiasco." Mr. Moses expresses vigorously the opinion that the present civil defense administration should be abolished because it has failed to achieve any substantial public support. Mr. Moses disposes of the evacuation program by saying: "You cannot get the inhabitants quickly out of town without killing and maiming more in the process than would be lost or wounded in the explosions, fires, concussions and fall-out." We believe that most of our prominent fire and police experts in our larger cities have expressed this same viewpoint.

When it comes to the shelter program, Mr. Moses refuses to believe that the American public will "support a fantastic national underground escapist program, costing between twenty and thirty billion dollars at a time when the insistent demand is for retrenchment and economy."

As to the proposal that we have been advocating to civil defense authorities for some years, Mr. Moses says: "As to volunteer civil defense organizations, the only municipal agency I know of which can effectively serve to direct volunteers is the fire department. At relatively small expense, it could assume this responsibility. In each firehouse, for example, the municipality could add one or two trained firemen who would be responsible full time for organizing volunteer neighborhood workers. The regular fire force is always the chief instrument in catastrophes involving explosions, fires, and similar disasters. There is, however, in the offing an immense amount of generous patriotic and potentially competent volunteer effort which can be recruited for a firm, balanced, respected program under experienced professional direction. Such talent need not be discouraged."

Mr. Moses, we believe, is not advocating here in any sense the adding of an auxiliary fire force but recognizes that our fire departments are the logical emergency service around which a sound local civil defense effort should be built.

We recommend a complete and careful reading of Mr. Moses' article to our members who are interested and who still believe that a sound and sensible civil defense program could and should be created.

See page 13 for description of cover photo

75th Anniversary of Robbins Hose

by Warren Y. Kimball, Manager, NFPA Fire Services Department
Editor, FIREMEN Magazine

ONE of the Nation's outstanding volunteer fire companies, the Robbins Hose Company No. 1, Inc., of Dover, Delaware, used Fire Prevention Week to observe its Diamond Anniversary. This fire company, which began service in 1882 with hand-drawn hose reels, is now one of the best equipped and best trained volunteer fire departments in the eastern part of the United States. It protects not only the capital city of Delaware, including all of the many historic buildings and shrines, but a large rural and suburban area outside of the city.

It is particularly noteworthy that the Department is playing an outstanding role in community fire prevention activities as well as in fire fighting. The extensive program carried out by the Robbins Hose should surprise those who have contended that the volunteer fire service is at a disadvantage as compared with a paid fire department in conducting an effective fire prevention program.

Readers of NFPA FIREMEN may recall that the Robbins Hose Company in 1948 was host to fire department people from all over the country when a commemorative postage stamp was issued in observance of the 300th Anniversary of the Volunteer Fire Service in the United States.

Robbins Hose Company is incorporated as a nonprofit organization. It operates eight modern pieces of motorized fire apparatus, most of which are owned by the Company, but several were purchased by municipal funds. It receives an annual appropriation from the City of Dover and also funds from the State of Delaware for the protection of State property, but a large part of its income is earned by activities of the volunteer firemen. The only paid men out of the 75-man membership are the two housemen who take care of the station and serve as fire dispatchers.

The present officers are Samuel F. Heite, Jr., President; Chief George D. Hill, Jr.; First Assistant Chief Paul N. Kertiles; and Second Assistant Chief Jack T. Lowe. City Building Inspector Thomas E. Baker, a former chief for 12 years and member of the Company for 33 years, was chairman of the 75th Anniversary Committee. Edward Holmes was chairman of the 1957 Fire Prevention Committee. The Robbins Hose Company has strong ties with local industry including the Richardson and Robbins chicken canning plant, for one of whose founders the Company was named, the International Latex Corporation and also with the nearby Dover Air Force Base which has brought a large influx of new residents. A number of the firemen serve on the Air Force Base Fire Department.

Apparatus in front of Dover Fire Headquarters during Fire Prevention Week celebration.

In addition to an intensive Fire Prevention Week program including radio and news coverage, public school activities and extensive participation by the entire business community, the Department conducted a busy Anniversary Program during the week. On Tuesday night, October 8, it was host to 75 fire departments in a mammoth fire prevention parade. One feature of interest in the parade was that each piece of equipment was ticketed to show the investment that the citizens had in the apparatus. The Dover apparatus alone represented an actual cost of $131,645.00 exclusive of hose and accessory appliances. Paid fire fighters from Wilmington participated in the parade.

On Thursday evening an Anniversary Banquet and Entertainment was held at the beautiful new Dover Hotel with nearly 300 persons in attendance. State Governor Caleb Boggs, a long-time friend of the Fire Company, was out of State, but was ably represented by Lieutenant Governor David Buckson. Greetings were also brought by U. S. Senator J. Allen Frear and Mayor W. Edward Hanan. Former Chief Ralph H. Boyer was master of ceremonies. Speaker of the evening was Warren Y. Kimball, Editor of NFPA FIREMEN magazine.

On Saturday, October 12, the Department staged a water demonstration at the State House Plaza showing all types and calibers of fire streams, including both fogs and solid streams. The new 85-ft. Mack aerial ladder, placed in service during Fire Prevention Week, was put into action and various types of ladder pipe streams were shown. Turret nozzles, portable deluge guns and various hand lines were also used. More than 3,000 gallons per

Chief George D. Hill, Jr.
Dover Fire Department

1st Assistant Chief
Paul N. Kertiles

2nd Assistant Chief
Jack T. Roe

minute were discharged, taking advantage of the new improved water supply in the Government building area installed at the recommendation of member Thomas E. Baker. The Department also burned several old automobiles in a spectacular demonstration of its fast attack with preconnected fog lines from the large tank pumper which is the first piece to roll on every fire.

The fire station dedicated in 1948 and extensively decorated for Fire Prevention Week has five large apparatus doors. The first line of apparatus behind the doors consists of the new aerial costing $42,500, a city-owned pumper, the large tank pumper, another pumping engine and the squad salvage truck. The second line of apparatus consists of a large 1,000-gallon pumper, a 600-gpm pumper, and a hose truck with a large turret nozzle. All of the pumpers have divided hose bodies with hose arranged to lay in either direction. The Department uses Philadelphia style snap couplings for the 2½-in. hose.

Over each piece of apparatus is a red light controlled by the dispatcher. On the wall above the dispatch desk is the assignment for each type of alarm depending upon whether it is a city or country fire. Not less than three trucks respond to city calls and two trucks to rural calls. On a general alarm all apparatus responds.

Dover is one of the first communities in the United States to install radio traffic light control on its fire apparatus. Each truck has a radio control box on the dash in front of the officer's seat which permits the operation of traffic lights on either an east-west or north-south basis as conditions require and also actuates a flashing red light to warn that the apparatus is coming. This installation cost more than $5,000 and was installed by the Robbins Hose Company with aid of a city appropriation of $2,000.

The air-conditioned fire dispatcher's room on the main apparatus floor is one of the most modern in the State and has recently been re-equipped at a cost of approximately $10,000. This work was planned by Chief Hill and State Communications Officer Samuel Stant. The dispatcher's board has switches and control lights governing the response of all the Department's apparatus. There is a public address system which may be heard throughout the building and three incoming telephones, one of which is a red colored phone reserved for fire calls. When the red phone is used, it automatically actuates the public address system so that all members can hear the conversation. There is complete radio equipment on all apparatus on the State fire network used by all fire departments in Delaware. Thus all fire calls in the area are automatically monitored by the dispatcher, and he keeps in touch with movements of other companies participating in the mutual aid plan. The Fire Company serves a rural area around the City as agreed through the State Firemen's Association and the Kent County Firemen's Association. The recently adopted response plan calls for response of two other nearby volunteer companies for all rural calls in order to increase the water carrying and pumping capacity available at these fires outside of the hydrant districts.

Not yet in service, but provided for on the dispatcher's console, is a civil defense dispatch board which will have direct contact with all fire departments in the County. This will make it possible for the Dover fire dispatcher to contact directly any of the fire departments cooperating in rural and mutual aid response. Also included on the console is a section which receives automatic fire alarm systems from all of the State government buildings, and in addition to the regular State-wide fire radio, there is an emergency CD radio network which provides an alternate means of communication in emergencies.

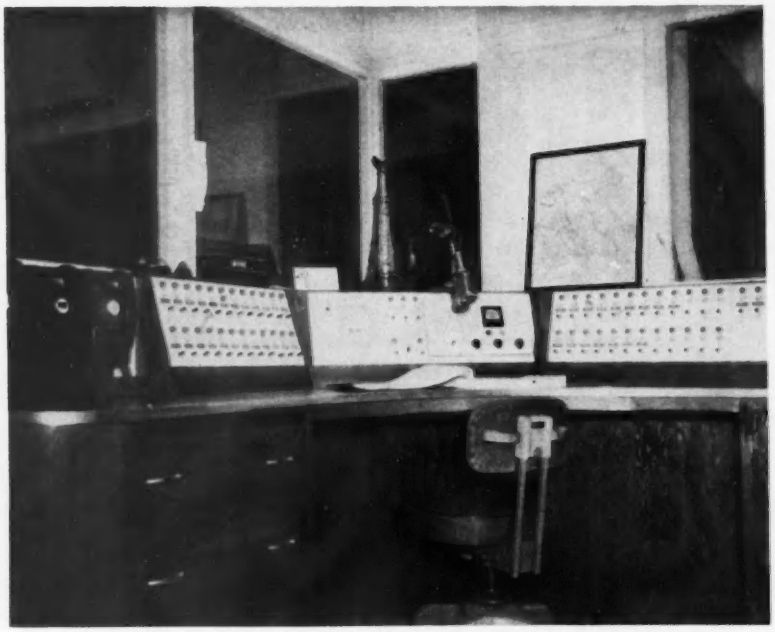
One of the other matters in which the Robbins Hose Company is largely responsible for a great improvement in fire protection is in extensive strengthening of the water supplies in the City in the past several years. Formerly most of the hydrants were on small mains, and the water storage was quite limited. Additional storage has been provided and large mains run throughout the business district with close spacing of hydrants, with at least two hydrants at each intersection on separate mains. Under the direction of Building Inspector Tom Baker, all of the hydrants have been flow tested and color coded in accordance with the NFPA Standard for marking of hydrants. In the fire dispatcher's control room is a large wall map drawn by Fireman Rodney Hill. This map is in a glass case and bordered by fluorescent lights. Every hydrant is indicated by a colored pin corresponding to the color code indicated by the flow tests. While apparatus is responding to the fire, a dispatcher checks the hydrants on the map and radios the location and flow capacity of the various hydrants. Unfortunately, there are many new housing developments outside of the City limits where hydrants are on small mains furnished by the contractors and which pro-

vide flows of less than 500 gallons per minute. However, all of the first line apparatus has good water tank capacity, and for fast attack Chief Hill has the tanker-pumper go directly to the fire and place two 1½-in. fog lines in service. These are carried in skid loads. It is the duty of the first conventional pumper to back up the water tank unit. The Department has a very intensive training program following the University of Delaware Fire Service Extension and State Fire School plan. In addition, a number of the members have taken special courses at the University of Maryland Fire Service Extension School.

One of the public relations operations in Dover by the Fire Department is the practice of promptly calling both local radio stations promptly after the siren has been sounded and giving them a brief report on the fire. This is broadcast promptly and has worked out very well to reduce public concern over the sounding of the siren. Persons in places of business and factories do not have to worry when the fire is of no direct concern to them, and this has relieved the dispatcher of handling hundreds of inquiries regarding the location of fires. It has also reduced traffic and helped free the streets for the response of firemen and apparatus.

One of the problems of concern to the Company has been the increase in life hazard due to the growing population, which resulted in conversion of a number of old residences into apartment and tenement structures. Accordingly, Chief Hill and other Department members went before the City Council and were successful in getting an ordinance passed to require adequate exits for all such structures. This ordinance was made retroactive because much of the hazard related to older buildings. Another life safety provision introduced into the Building Code upon recommendation of the Fire Department was to require that windows in bedrooms of residential buildings, including new dwellings, must be of a standard type which would permit persons to escape from a fire or permit access by the Fire Department for rescue. Many of the housing developments had bedroom windows which were a very small size and too high above the floor to permit children to escape readily from a fire. Space does not permit a discussion of all of the equipment and activities of Robbins Hose Company. Most of the first line apparatus has electric portable generators and floodlights. There is a portable pump on the squad truck and a large emergency generator in the fire station. Chief Hill is making plans for a new rural fire truck. The Department is a well-run business organization which gives the citizens a great value in protection for the money invested. This is indicated by the fact that when buying the new aerial ladder they were able to trade in their 20-year-old 65-ft. steel aerial and recoup 60 percent of the original cost of the former truck toward the purchase of the new aerial. This made the annual cost of the former truck, exclusive of operating costs, approximately $300 per year. The old aerial has been sold.

Thus the story of the Robbins Hose Company is one that should inspire volunteer fire departments throughout the country because it is not only a story of a progressive, well-equipped and well-trained fire fighting organization, but one that has assumed community leadership in providing a better water system, an extensive fire prevention educational program and improved building ordinances for fire safety.



Control panel in alarm room. Dispatcher's office recently was re-equipped at a cost of about $10,000.

(Below) Fire stream demonstration during Fire Prevention Week.

"Dog Pound!"

Boston's New Ladder Pipe Evolution

IN RECENT years the majority of large cities having separate water tower trucks for providing heavy streams have shifted to ladder pipes and placed the water towers in reserve or eliminated the water towers altogether. The reason is that the modern metal aerial ladder has made every ladder truck a potential water tower. Few fire departments have sufficient manpower to have separate towers continuously manned for infrequent use.

The Boston Fire Department is one of a score of cities which have the towers in reserve. Under the direction of Chief of Department Leo C. Driscoll and Assistant Fire Chief William Terrenzi of the Training Division, the very complete training course for the Department's 30 aerial ladder companies has included intensive training in ladder pipe operations. The aerial ladder training course is under the immediate direction of Lieut. George Roy, of the Training Division, who also assisted in the outstanding Aerial Ladder Short Course given recently at the University of Maryland under the direction of Robert C. Byrus.

The conventional method used in supplying ladder pipes has been with a 3-in. hose attached to the ladder pipe supplied by a siamese at the base of the ladder. While this method has been fairly successful, it has certain limitations. The job of getting ladder pipes in service has been relatively slow and this fact has discouraged their use. It was necessary to allocate 3-in. hose to each ladder truck, which provides another maintenance problem.

Accordingly, Lieutenant Roy was directed by his superiors to develop a new ladder pipe evolution which would be fast and reliable and which would eliminate the deficiencies of the old method. The subject was discussed with several leaders in the fire service with the objective of making the ladder pipe operation fast, efficient and easy to perform.

It was known that with the single lead hose on the ladder, even of 3-in. diameter, the big problem was the heavy loss in the lead hose, resulting from large flows, which must be added to pressure loss due to elevation of the nozzle. It was also well known that while a single 3-in. line was more efficient than one 2½-in. line, two 2½-in. lines would carry the required flow at less pressure than the one 3-in. line.

This fact indicated that two 2½-in. lines on the ladder would do a better job than the single 3-in. feeder. This meant that the siamese could be carried pre-attached to the ladder pipe and no special hose would be needed on the ladder apparatus. There was the further advantage that the ladder company would only be concerned with setting the truck and attaching the ladder pipe leaving the entire job of providing the supply lines to an engine company.

Of course, there was the question of the proper method of securing the two lines of hose on the ladder. However, all that was needed was to tie each line with a rope hose tool just a short way below the siamese. This took excess weight off the siamese, and the two lines of hose lay straight on the ladder without loops or kinks. The weight of the two lines of hose helped to stabilize the ladder and countered the backthrust of the stream.

Hose lays straight on ladder without bends and kinks encountered when tied in several places. This also permits easier climbing.

Nozzle with siamese attached in position on the ladder. Hose is secured below siamese with rope "hose lines."

(Left) Stream with 1⅛-in. tip at 50-ft. elevation discharging 750 gpm supplied by 2 lines from 750 pumper.

In a series of tests it was found that the entire job of getting a ladder pipe in service could be performed in substantially less than the three-minute time goal set as a desirable objective. While two ladder men set the ladder pipe and the rest of the ladder crew is stabilizing the truck and preparing to raise the lad-

(*Continued on page 23*)

Stanford University Fire Department

Since 1895, a unique fire department has been protecting the students and property of Stanford University. At the request of the editors of FIREMEN magazine, Chief John M. Marston, a member of NFPA, has prepared this article describing the organization and operations of his department, together with its area of protection which is equivalent to a good-sized municipality.

THE Stanford University Fire Department (California) is one of America's few college-owned fire protection organizations. It is charged with the protection of a 9000-acre campus, an estimated valuation of $55,000,000. Population during regular school sessions is 12,000. The University is located thirty miles south of San Francisco at the base of rolling foothills at Stanford, California.

The Fire Department is composed of a chief, 10 full-time fire fighters and 14 student fire fighters. The students who have become a part of the Department help defray the costs of a college education by serving as members of the fire fighting team. They live in a dormitory on the second floor of the campus fire station. Book-laden study rooms are provided, where student firemen study to maintain a scholastic average that compares favorably with the rest of the Stanford student body.

Fire Chief John M. Marston is a veteran fire fighter with 30 years' service. He resides in a house on the campus within convenient distance of the fire station. His full-time professional aids include Assistant Chief J. W. Prusia; Captains F. A. Julian and H. W. Lund; Firemen F. Stolarik, A Ramies, W. Liddicoat, P. Neil, William O'Neill, V. Signorino and Thomas Gingles.

Student firemen represent three states and Pakistan. The Californians are: Roger Anderson, Los Angeles; Anthony Brazil, Salinas; Warren Deley, Altadena; Jack Lillard, Salinas; Joseph Murphy, Lynwood; Don Peterson, Visalia; Harry Turner, San Diego; Steve Whipple, Burlingame; Dave Wilde, Burlingame; Frank Yapp, Burbank. Others include Jusuf Javeria, Pakistan; Bob Riley, Watertown, Connecticut; George Wieland, New Brunswick, New Jersey; and Bill Gale, Waco, Texas.

Personnel, apparatus and fire station of Stanford University Fire Department. Left to right are a 1,000-gallon tank truck with a 500 gpm pump, ladder truck, and two 750 gpm pumpers. Pumper second from right carries floodlights and other special equipment.

Activities of the University Fire Department are similar to the functions of a city organization and include fire prevention, rescue, first aid, fire fighting, fire alarm supervision, protection of buildings and occupants, training, investigation of fire, salvage work, repairs and maintenance of equipment and quarters. Added to these is the task of battling grass and brush fires in Stanford "backlands" in the foothills.

Drills are held weekly, with all student fire fighters participating. Oklahoma A & M and California State Fire Training Manuals are standard drill material used.

All University buildings, including living quarters, are inspected monthly. Special details are provided at student functions where large crowds gather. All decorations for dances and special events on campus must be inspected and approved by the Fire Department. This is required by State Law.

Fire losses are at a low level, due to the cooperation of the student body. The Uniform Building Code, the regulations of the National Board of Fire Underwriters and the National Electric Code are enforced. All University buildings and living groups are equipped with first-aid fire appliances. A total of 25,000 ft. of 1½-in. hose and 625 fire extinguishers are located in the various buildings, with 32 fire alarm boxes on campus. The University has a modern Gamewell fire alarm system. All of the living groups, dormitories and many of the academic buildings are provided with fire alarm systems connected to the Fire Department through master boxes. The 16-story Hoover Library on War, Revolution and Peace, and other critical areas, are protected by automatic fire alarm systems.

Fifty-three dormitories and 227 private residences (a new residential subdivision will open in the fall) and the many university buildings are protected by the Stanford Fire Department. The Department has four well-equipped pieces of ap-

paratus and a Chief's car. The apparatus consists of two 750-gpm pumpers, one ladder truck, one 1,000-gallon tank truck with 500-gpm pump. All apparatus is equipped with two-way radio. The Department also has a resuscitator.

Campus firemen work in close cooperation with neighboring fire departments in Woodside, Menlo Park, Palo Alto, Los Altos, Barron Park and the County Departments of San Mateo and Santa Clara. Mutual-aid agreements have been practiced on several occasions.

The Fire Department averages approximately 150 calls a year. In the year 1956, there were 181 calls; 39 buildings, 28 grass, 5 auto, 8 rubbish, 9 street and 92 miscellaneous calls for smoke investigation, emergencies and first aid and false alarm.

Water supply for the campus is University owned, and comes from two reservoirs supplying the distributing system by gravity through two 12-in. mains. Searsville Lake has a capacity of 305,000,000 gallons and an elevation of 343 ft. Felt Lake has a capacity of 339,000,000 gallons and an elevation of 360 ft. An emergency supply is available from the domestic system which has four deep well pumps and four high lift pumps with a capacity 2,000 gpm discharging against an elevated reservoir of 1,500,000 gallon capacity. There are 166 hydrants on the campus.

Chief John M. Marston
Stanford University Fire Department

Stanford's fire department history dates back to the 1800's, before the University was founded. At that time, Senator Leland Stanford purchased a hand-drawn pumper to protect his famed stables of race horse trotters on the Old Stock Farm, present site of the University. The ancient pumper is now on display in the Stanford Museum on the campus.

In 1895, four years after Stanford University opened its doors, several hand-drawn hose reels and stationary hose boxes were established on the campus for the protection of the University. Later, a fire station was built for the hand-drawn equipment, and a hand-drawn ladder truck was purchased.

Stanford's motorization and modernization began in 1913 when the University purchased a Ford chemical engine and a Cadillac hose engine.

Today, Stanford University has a 25-man, five-vehicle fire department which has earned its place in the nation's fire protection profession.

NFPA "Quarterly" Readers

NFPA MEMBERSHIP, during the past few months, has climbed above 17,000. A recent study of the distribution of the NFPA *Quarterly* to these members provides some information on the representation of industry and fire service in the Association. For example, 5,000 members come from 44 classifications of industry and commerce; 3,497 are from the public fire service, that is fire departments, fire commissioners, chiefs and other personnel; 3,140 are from inspection and rating bureaus and other segments of the insurance industry; 934 are from colleges, hospitals, libraries, chambers of commerce, laboratories, associations and other units; 664 are from the various branches of the Federal Government; 586 are professional architects, independent fire protection engineers or representatives of engineering firms; 223 are state and provincial public officials, including state fire marshals and state police; 173 are building inspectors, electrical inspectors or other municipal officials; and 154 are to be classified. Since the *Quarterly* is sent only to members of the Association, this analysis of its readers also provides a good picture of the representative groups in NFPA. In other words, 37 percent of the Association's members come from industrial and commercial organizations; 23 percent from the public fire service; 21 percent from the fire insurance field; with the rest representing diverse fields of education, the Federal Government, professions, and State and municipal officials.

Award to George Tryon

GEORGE H. TRYON, III, in November, was presented with an award by the Flight Safety Foundation, Inc., during its ninth annual International Air Safety Seminar, Palo Alto, California. The Foundation's award for distinguished service in achieving safer utilization of aircraft was given on behalf of *Aviation Week* magazine.

As many readers of FIREMEN know, George Tryon, author of numerous articles in the magazine, has served as Secretary of the NFPA Committee on Aviation and Airport Fire Protection for more than 10 years. He joined the NFPA in 1945 and is now Assistant Technical Secretary of the Association and Associate Editor of the NFPA *Quarterly*. He also has membership in the Society of Fire Protection Engineers and the Institute of the Aeronautical Sciences.

The citation accompanying the FSF award said in part:

"His courage and persistence in the face of difficulties that appeared insurmountable in the early days of his efforts have resulted in many fire prevention and fighting practices now widely accepted by the aviation industry. These include methods for rescue and fire fighting, fueling equipment and methods, and the dissemination of information on all phases of aviation fire problems."

COVER PHOTO

The picture on this month's cover (United Press Photo) shows Milford, Connecticut, fire fighters in attack on a department store fire in that community on October 22. The fire started near plastic toys in the basement, then spread rapidly to the first floor of the 1-story, brick on steel frame structure. Apparently it burned for about a half-hour before discovery. Fire department response included 3 engine companies and a ladder company and control was made with a booster line, five 2½-in. and a 1½-in. lines. Five fire fighters were overcome by smoke or injured when windows in the front of the building shattered from heat. Loss was estimated at $300,000.

What to Do about

AMBULANCE SERVICE

Part II — Conclusion

In last month's issue of FIREMEN magazine, the first part of this article described how ambulance squads function in North Wilbraham, Massachusetts, Anoka, Minnesota and Hillsdale, New Jersey. In this concluding article, Assistant Chief Roy East of the Columbus Manor, Illinois, Volunteer Fire Department provides some more suggestions and tells how the ambulance service has grown through the years.

"This organization is founded to aid and assist the Columbus Manor Fire Department. Its chief purpose is to prevent loss of life, limb and property from fire or other causes; to furnish transportation for the sick, injured or needy (without charge for such service) and to be an asset to the community."

THE above paragraph is Article III of the constitution of the Columbus Manor Volunteer Firemen's Association, incorporated as a non-profit organization in the State of Illinois.

Article VII Section I reads as follows:

"This organization shall endeavor at all times to keep first aid, rescue and ambulance equipment available to serve the public. No fee can be charged by any member for services performed. The rescue and ambulance equipment will be maintained by donations and fund raising activities of the Columbus Manor Volunteer Firemen's Association."

"Section II. A printed copy of Article VII Section I shall be framed and posted in prominent place in passenger section of ambulance at all times."

"Section III. The members will vote at annual meeting for a squad leader and assistant squad leader. These men must have a current American Red Cross First Aid Card to qualify for this office. They will be in charge of the ambulance, iron lung and all first aid equipment."

Other parts of the constitution tell the responsibility of the squad leader and assistant squad leader in care of equipment and records. The constitution results from sixteen years of experience operating an ambulance in conjunction with a fire department.

A definite must in any volunteer ambulance group: complete and adequate coverage by insurance for passengers, ambulance men and for any personal or property damage that could occur.

Any volunteer fire department that sees a definite need for ambulance service should start such service. However, here are some things to be considered. Do not develop an ambulance service if a good one is already serving the community. Funds would better be used for fire fighting equipment. Do not start a volunteer service unless the men are pledged to answer any kind of call at any time. The men should also be pledged to work in any fund raising activities for medical supplies, mechanical requirements of the ambulance, laundering and oxygen supply.

Picture these happenings: several heart attacks; an exploding boiler in a home that killed two and injured five; a plane crash that killed two (these two died while firemen waited for an ambulance), a semi-trailer driving through a hayride party and injuring 39 teen-agers. This all happened in a few months in our area!

Our first ambulance was bought early in World War II. Members of the Department had managed to raise $225 by solicitation when they heard that an undertaker who lived 200 miles away had a vehicle for sale. Two men were delegated to buy the vehicle and they drove to see the undertaker.

After a few — cups of coffee — the undertaker said he had sold the ambulance to a peddler of truck garden produce but was never paid for the vehicle. A few more cups of coffee(?). Later, the undertaker agreed to repossess the ambulance and sell to the firemen. A trip of about 20 miles more and the ambulance was repossessed. Back again at the funeral parlor the deal was completed. When the men discovered the price was $400 they tremulously wrote out the check with only $225 in the bank. They had orders to buy an ambulance and were fortified with "coffee" courage. About six flat tires and 36 hours later the ambulance was in the firehouse. The door-to-door fund raisers literally went to town to raise enough funds to cover the $400 check that would soon be at the local bank. The goal was achieved and the worried check writers were saved.

The ambulance sat idle for a few months while a minority fought against its being placed in service, and others were raising funds for equipment. It was more than a year later before the ration board would allow tires for the ambulance, and many a call was answered with the crew praying for the tires to hold on.

Only one rabid dissenter in the organization resigned when the ambulance began to operate. It was ordained by fate! The first call was a heart attack victim, the man who resigned because he was opposed to the ambulance! Hospital doctors credited the oxygen given as saving the man's life.

With a lot of first aid training and the 38 calls answered in the first year, the firemen soon became veterans and skilled ambulance men.

A couple of years later the old truck gardener's ambulance was replaced with a newer more modern ambulance. Funds were solicited in a new way. The first ambulance fund netted donations of 25 cents to $1. The second fund drive averaged $2 per call in about 19 out of 20 calls. Any donor of $2 or more was made an "honorary member" of the Columbus Manor rescue squad.

The state and county police called often for the ambulance and every year the total of calls handled increased in volume.

When the third ambulance was bought it was less than two years old and the vehicle it replaced seemed

Equipment on Columbus Manor Ambulance

Street guide lists of over 40 towns and cities within 20 miles of Columbus Manor
List of all hospitals and locations in Chicago
List of all hospitals and locations in Illinois
Three-way F. M. radio. Leece-Neville alternator
Stretcher that elevates mechanically to hospital bed height with rubberized (zipper) covered sponge rubber mattress
1 E. & J. resuscitator with all accessories
1 Stephenson Minute Man resuscitator and all accessories
1 Microhead floor mounted combination inhalator-resuscitator and aspirator
1 Portable wheel truck mounted inhalator
1 Collapsicot — 6 blankets — 1 set wood splints
1 Special padded "L" splint — leatherette covered
1 Special padded flat splint — leatherette covered
1 Sputum tray
3 Strap style tourniquets
1 Case fuses — 1 hand light — 3 jacks
8 "D" cylinders oxygen — 2 chem-ox mask sets and 6 canisters
2 One-half inch fifty-foot manila ropes
6 Special coats and squad caps (kept on wall in station)
2 Packages baking soda — 1 package salt — 1 bottle distilled water
1 Bottle alcohol — complete assortment roller bandages
1 Dozen triangular bandages rolled cravat style and stored in paper cups
1 Bottle milk of magnesia — 1 bottle merthiolate — 1 Foille Burn kit
3 Tubes petroleum jelly — 1 fracture board
1 Set surgical instruments and gut and linen sutures
6 Assorted sterile covered jars
4 Pairs sterile rubber gloves — 1 rubber sheet — one-half dozen sheets
1 Mortician's canvas bag
1 Set grappling hooks — 1 Ansul extinguisher
1 Jar sulfa ointment — 1 bottle (100) aspirins — 1 bottle (100) charcoal tablets
1 Bottle (100) sodamint tablets
2 Packages sanitary napkins (used for padding fractures and for cases requiring large compresses)
1 Halligan "forcible entry" tool
1 "Sunday" axe
1 Package (small) soap powder
Large wardrobe style cabinet of first aid materials in firehouse

like an antique. The special funds for this ambulance were obtained on a door-to-door canvass and averaged better than $2 a call. A window sticker reading "I gave!" was given to each donor of $2 or more.

The advent of the newest ambulance made graduate ambulance men out of our organization. Five babies were born in this rig, but the men in our organization have lamented a true fact. The first aid text books offer no instructions, nor do first aid instructors give any help on these maternity calls. (*The American Red Cross suggests that volunteer fire department ambulance squads can enlist the services of a doctor or an obstetrician for instruction on handling maternity cases. — Ed.*)

A new $11,500 ambulance for the Columbus Manor Fire Department was purchased from ticket profits raised at an annual benefit show.

Our first completely new ambulance was built to our specifications and was purchased in 1955 for $8,700. When the cost was announced at a meeting there was a shrill whistle. (Doesn't this happen in most of them?) One of the men remarked, "There ain't that much money in the community!" Another said, "We'll never make it!" But our services also covered eight other communities plus a large unincorporated area of farms and estates. The men really worked hard on this drive and newspapers in the communities helped. When the final total was compiled we had gone $600 over the amount needed.

We did make it! No gimmicks were used in this drive. The only thing the people received from the firemen was a receipt. When we realized our Department's growth from a $400 ambulance that was "hard scratching," to collecting the money for an $8,700 ambulance, we appreciated that our men are not only veteran ambulance men but also are experienced door-to-door solicitors.

There are a dozen and a half fire departments within a 10-mile radius of Columbus Manor. Many have or are planning to purchase an ambulance. We have reciprocating agreements whereby anyone will answer a call for us if we are busy and we will do the same.

After handling persons with contagious diseases we tie up the ambulance for 24 hours. Soiled laundry is placed in a separate bag, labelled and brought to the laundry at once for special handling. The ambulance is left outside the firehouse and scrubbed with soap and water. In sunny weather we air the rig by leaving doors and windows open, then string wires under the headlining and suspend bandages into cups on the floor. These cups contain formaldehyde. Twenty-four hours of these fumes with doors and windows closed and we consider the ambulance sterilized. We then go back in service after replacing blankets, etc. In cases of questionable contagion we contact the doctor handling the case. The men on the call bathe thoroughly and hang their clothing out to air and then send it to the cleaners. It is a good policy to take a doctor's advice on contagious disease precautions for your own and your family's welfare.

Here are some other suggestions for volunteer fire departments that provide ambulance service:

Never criticize, find fault or ridicule any doctor or nurse. They have more training and experience than you have. You may be the one who is ignorant because you did not know what or why the doctor did something. Ambulance men should govern themselves in a manner that will be a tribute to their organization.

When in an emergency or operating room keep hands off everything; do not finger any instruments; keep quiet, out of the way.

Always wash bloody laundry in cold water as soon as possible.

Act confident and sure of yourself when around or near sick or injured.

Never let an injured person know the extent of his injuries.

Maroon ambulance blankets are helpful in preventing people from seeing blood.

Never smoke where oxygen is in use.

When using oxygen inform the person, "This will help you get better." Never act like it's a last desperate attempt to save a life.

Contact local medical associations, health departments and coroners' offices for good helpful advice and information.

Baffled tanks on plane's pontoons are filled when aircraft taxis.

Aircraft jettisons water in test drop on target.

Water Bombing Forest Fires

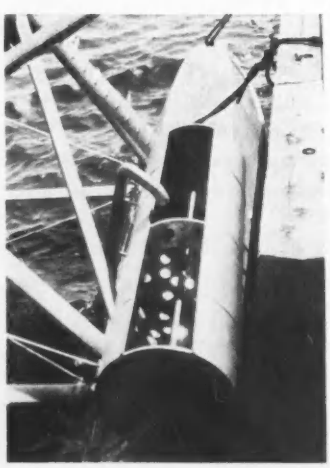
FOR a number of years the Forest Protection Division, Department of Lands and Forests, Ontario, Canada, has been using aerial attack for applying water on forest fires. (See FIREMEN for March, 1954.) During the past year the Division staff designed and installed two 100-gal. tanks to fit on the pontoons of an Otter aircraft. Each tank is baffled to minimize water surging and make control of the aircraft easier. A scoop device permits the water to enter the tank as the aircraft taxis on the surface of the lake or pond.

In flight the tanks revolve outwardly and are tripped simultaneously by a cable release system operated by the pilot. At present the design of the tank limits the capacity to 80 gallons of water so that, with both tanks filled, the aircraft carries an additional 1,600 lbs.

Preliminary tests showed that at 100 ft. above treetop level, with the plane traveling at an air speed of 85 mph, the area covered by the water dropping measured 150 ft. long and 90 ft. wide. The pattern was oval-shaped with the fallout well concentrated in the center. Rain gauges, set up on the target area, showed that water fall measures from a trace to .11 in. in depth.

While the technique is still in the experimental stage, it has been used successfully on a number of forest fires. On July 30 a forest fire started about 40 miles north of Sudbury, Ontario. When the pilot began his water bombing attack, the fire had increased to approximately 100 acres in size. Within eight hours the pilot made 86 trips, dropping 13,760 gallons of water on the fire. By evening, the fire was held at 110 acres, and fire burn limited to this size.

The Division of Forest Protection reports that it hopes to equip five Otter aircraft with the new tank units. In addition, there are 39 Beaver aircraft to be equipped with water dropping units for the coming year.



(Left) Close-up of cylindrical tank showing baffle plate. Tripping mechanism operated by pilot of plane in flight causes filled tanks to rotate outward dropping water in oval pattern.

FROSTY FIREMEN

by Harold Helfer

IN SOME places, when it snows, people make snowmen. In Quebec, they like to make firemen — whole brigades of 'em, replete with hook, ladder and hose.

In time, of course, when the temperature begins to creep upwards, these noble fire fighters begin to recede. But nobody can't say they weren't staunch and stoic, poised in the blustery weather, day in and day out.

Sometimes there's liable to be a few brigades of these snow firemen around town. Making snow replicas of themselves has become a hobby of the men in most of Quebec's 13 fire stations.

Says R. Beaulieu, Chief of the Quebec Fire Department: "Whenever there's a nice clean snowfall the firemen at all the stations seem to get busy at once working on their snow firemen figures in front of their stations."

Firemen who played a part in the snow sculpture above include C. H. Bisson, R. Lagueux, R. L. Heureux, A. Drolet and P. E. Cote.

HERE ARE THE TEST PHOTOS:

This is a Rockwood Spot Protection System discharging FogFOAM at a pipeline pumping station. Fire could break a link in the pumping system which could interrupt or stop refinery production. The Rockwood System goes off automatically by a rate-of-rise detection system and protects against such an eventuality.

Here's the same scene from another angle after only 3 minutes of the Rockwood Protection System operation! There's a four inch blanket of Rockwood FogFOAM on the floor — and there's no longer any danger of flashfires starting.

Rockwood FOAM delivers four inches of fire protection *in three minutes!*

Rockwood FogFOAM systems *instantly and automatically* discharge FogFOAM to the fire area where it forms a fast flowing heavy blanket of FOAM. Within seconds of the fire's start Rockwood FOAM literally covers the fire and strangles it. Flashbacks are prevented.

Write for full information on how your plant can be spot protected against costly flammable liquid fires by Rockwood precision engineered fire-fighting equipment. Send for your booklet now —

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GREATER NEW YORK CITY AREA SERVICE FLEET
"The new inspection and service program. . . ."

Inspection-Servicing Program for Fire Apparatus

Many fire departments in small communities have difficulty in establishing good maintenance and service programs for fire apparatus. The lack of a sound inspection and maintenance program can be costly and might bring about breakdown of apparatus at critical moments. This article shows how one apparatus manufacturer plans to provide this valuable service to its customers.

ELMIRA, NEW YORK, AREA FLEET
". . . consists of a free warranty inspection at six-month intervals . . ."

BARRINGTON, ILLINOIS (CHICAGO) SERVICE CAR
". . . covers minor repairs, adjustments and replacement of minor parts."

A NEW program, providing for inspection and servicing of fire apparatus, has been inaugurated by the Ward LaFrance Truck Corporation, Elmira, New York. It consists of a free inspection at six-month intervals during the warranty period on new Ward LaFrance equipment together with a service contract, available at nominal cost, for equipment on which the warranty has expired.

The warranty inspection, now effective on new Ward LaFrance apparatus, is conducted semiannually and covers minor repairs, adjustments and replacement of minor parts for the duration of the warranty period. The new service contract for apparatus no longer under warranty is available at nominal cost on a one-year, renewable basis.

The service contract provides for two visits by trained maintenance personnel to the firehouse each year to inspect all working and operational parts, to adjust the clutch, brakes, pump packing glands, etc., and to lubricate operational controls such as levers, valves, gates and doors. Lubrication does not, however, include changing oil and pressure lubrication both of which can be handled more quickly, easily and inexpensively by local service stations. If apparatus demands special maintenance at some time between scheduled service calls, then the policy holder can still summon the serviceman promptly.

Inspection and servicing are being handled by factory-trained representatives. Specially equipped station wagons and cars have been purchased to expedite the service program.

Minor repairs on apparatus are made right in the firehouse to eliminate the necessity of taking equipment out of service. Where apparatus must be taken out for testing and adjustment, it is kept close to the firehouse in the event of a fire alarm.

A written report is furnished at the conclusion of the service call. The report outlines work done together with recommendations for any major repairs deemed necessary. If major repairs are indicated, the report itemizes these repairs and includes an estimate of cost.

All major repairs are handled at the nearest Ward LaFrance service station. Such stations are now in operation in Elmira, New York, New York City, and Barrington, Illinois (Chicago). Additional details on the new warranty inspection and service contract can be obtained from local Ward LaFrance representatives.

TEAMWORK WINS APPROPRIATIONS!

The following report should be significant to fire service members in many states. It outlines the strategy and tactics used by Wisconsin fire service organizations to obtain appropriations from the State and to begin an adequate firemen's training program. One of the key figures in the three-year battle was Norton Ames of Oregon, Wisconsin, author of this story.

FOR the past two legislative sessions, Wisconsin firemen had sought unsuccessfully for a state firemanship training program. Finally, the 13 area firemen's organizations, including the Wisconsin State Chiefs, joined forces into one, the Wisconsin Council of Firemen's Associations, to prepare and promote the bill.

Provisions were written to set up a Training Advisory Committee of four volunteer firemen, two paid firemen, plus one representative each from the State Industrial Commission, Commission of Insurance and from the State Office of Civil Defense.

A list of nine reasons for approval of the bill was drawn up and distributed to insure a clearer explanation of its provisions to member departments; and, in turn, to help firemen present it to legislators.

Long before the legislative session, a systematic effort was made to enlist the help of farmers' organizations and rural mutual insurance groups. Both groups were very helpful and loyal in fighting for the proposed bill. The League of Wisconsin Municipalities secured signatures of ten Assemblymen and three Senators as authors of the bills, which also helped in putting through the bill.

At the suggestion of Chief John Pavlik of the State Chiefs, Chief Louis Arntz of the South Central Wisconsin Volunteers, and Chief Walter Okey of the Southern Wisconsin-Northern Illinois, we sent out two blank petitions to each department on our rolls, about half of the 660 departments in the State.

Both petitions were to be signed by the officers and members of the department. One petition was to be addressed and mailed directly to their State Senator, and the other to their Assemblyman, mailed directly from their home constituents.

With the blank petitions, we enclosed maps of districts and lists of legislators, together with a postal card addressed to the Council, stating that both petitions had been completed and mailed. The card was to be signed and returned by the fire chief.

This return postal card, suggested by Fireman Driscoll of Port Edwards, proved very important. If we did not receive the card back in a reasonable time, a vigorous follow-

(*Continued on page 24*)

SAMUEL EASTMAN CO., INC.
The Finest in Fire Fighting Equipment
CONCORD, NEW HAMPSHIRE

Porto-RAK
The fast, modern way to handle, store and load hose.

HOSE STORAGE AND LOADING UNIT

Saves time — Saves space

Holds 1,800 feet of 2½" hose and proportionately more of 1½" hose in an 8½' space (loading table detached). Easy, convenient to use. Roll it right up to the truck for complete hose reload — out of the way when not in use. Equipped with locking fiber-wheeled casters.

WRITE FOR FOLDER

THE CIRCUL-AIR CORPORATION
575 East Milwaukee, Detroit 2, Mich.

WHAT ABOUT MANPOWER?

PART II

by Warren Y. Kimball, Manager, NFPA Fire Services Department and Editor, FIREMEN Magazine

REASONS FOR UNDERMANNED COMPANIES

WE POINTED out in last month's issue that half of the engine companies and a majority of the ladder companies of paid fire departments are dangerously undermanned. In many cities this undermanning is accompanied by a serious shortage of fire companies. This means that protection is spread much too thinly to give good first alarm response and is inadequate to handle simultaneous alarms in a given area.

In many smaller cities, one working fire takes most of the available first line equipment, and dependence must be placed upon off-shift response and outside help to cover the community in the event of other fires. In other words, the fire department organization is geared to fighting only one fire at a time, and with deficient company manpower, fires should be fought in the incipient stages when most of the work can be done with small lines.

Unfortunately, as the fire record shows, too many fires have already assumed serious proportions when discovered, and about all that can be done is to attempt to protect exposures while additional help is being mobilized.

Another reason for deficient fire company strength is the attempt of many communities to maintain a greater number of fire companies than the existing small complement of men will permit. There are reasons for this. In some communities, fire stations were established years ago when fire fighters worked a "continuous duty" system of more than 100 hours per week per man. Salaries were low, and a relatively small payroll provided a fairly good-sized crew on duty. Gradually pay and working hours improved, but not enough additional men were appointed to maintain a reasonable on-duty strength. For example, fire crews of 6 men before World War I were receiving salaries averaging $1,200 each for a total company payroll of $7,200 and were working long hours so that 4 or 5 men were on duty. With average hours and wages today, it would take a payroll of $50,000 or more to keep four men on duty. Even allowing for inflation, this means that manpower, the backbone of any fire department, is not cheap. Good manpower is essential to good municipal fire protection. The public must be taught that such expenditures are essential to safe community life.

Let us take another example. An engine company may have had 10 men under the continuous duty system. Then the two-platoon system provided two 5-man crews. Eventually a "Kelly" day off cut the on-duty force to 4 men. Then the three-platoon system and additional days off cut the working manpower to 3 men. Some additional men may have been hired, but generally, far too few.

One common fault is failure to provide sufficient manpower to cover vacations, sick leave, essential details, and statutory time off. In most cases it is necessary to keep a roster at least 10 percent above the desired platoon strength to maintain adequate company manning year-round.

Another reason why fire company manning is poor is that many communities have obtained additional apparatus and assigned it to existing companies without increasing the manpower complement. Consider one fire station which had 5 men on duty manning one truck. It was decided that a ladder truck was needed in the district. The truck was purchased and assigned to the station without providing additional manpower or perhaps only one additional man per shift. Then a squad or booster truck was added and perhaps an ambulance. The crew that formerly provided reasonably good manning for one truck is now expected to operate three or four machines. While it may not be expected that all of the machines will be used at once, the pumper is deprived of an effective working crew, and company teamwork is made less effective because men must be detailed from one truck to another as the exigencies of the moment dictate.

It should be observed that merely providing a ladder truck does not provide an effective ladder company which, because of the nature of its work, should have its own complement of officers and men. The same thing is largely true of squad trucks and booster apparatus. These are often provided in an attempt to relieve the heavier apparatus of runs to the smaller fires such as outside fires. However, if such apparatus must be manned by men from the engine company, there is the danger that the engine will be seriously undermanned just at the time when its full potential capacity is needed.

Another cause of undermanned fire companies is the rapid growth of suburban communities. Large numbers of new houses, schools, and places of business bring a demand for many additional fire stations to give immediate coverage. Occasionally this demand can be met by relocation of existing fire companies, but this causes problems. Once a fire station has become associated with any particular area, there are objections to its removal for relocation in a new area. The expedient generally followed is to build new firehouses in the new sections and to provide a skeleton crew with perhaps but two men on duty to start operations. No doubt there are good intentions to provide better manning when financial conditions permit, but once the new house is erected and the public sees the station and apparatus, the urgent demand for better fire protection subsides.

There never seems to be money for those additional men, and the fire department seems to be getting by and rendering satisfactory service with the short crew. When there is a major fire, additional help is summoned anyway. While the fire chief each year requests more men, the belief of those holding the purse strings is that protection is adequate and that the citizen and taxpayer is satisfied. It seems to do little good to point out that had the extra men been added to existing fire companies, the fire protection for the entire community would have been improved and that the new stations have merely added more undermanned units of little value at a working fire.

There are areas of tight labor supply where the fire department wages, even with possible fringe benefits, are insufficient to attract and keep an adequate supply of qualified manpower for the fire services. This, however, is merely a variant of the general problem because if the local administration wills to do so, it can compete with the local labor market and make the fire department job sufficiently attractive to keep its fire company ranks filled. There is not at this time a general manpower shortage such as occurred in wartime which could not be overcome by granting fire fighters proper wages, hours, opportunities for advancement, and security.

(To be continued)

Correction Notice

In the October issue of FIREMEN magazine an article on the recent aerial ladder school in College Park, Maryland, stated that an 82-ft. American LaFrance aerial ladder truck was demonstrated. Actually, this was another make of aerial ladder with four sections, totalling 82 ft. The fire company which owned the ladder specified this unusual size, since its station could not house a standard 85-ft. ladder.

NFPA ANNUAL MEETING

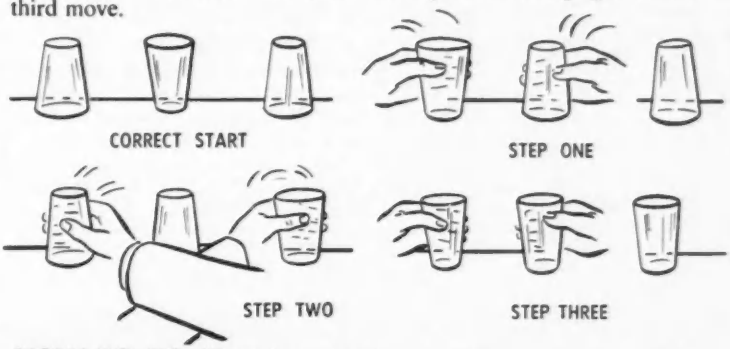
May 19–23, 1958

Palmer House

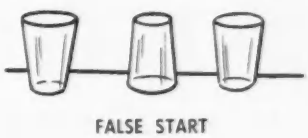
Chicago, Illinois

TUMBLING TUMBLERS

THE TRICK: Three glasses are set in a row, center tumbler upright, the outer two upside down. At the end of three moves, by turning two glasses over with each move, all three glasses are upright on the third move.



HOW TO DO IT: Follow the illustrations carefully. At the end of the trick turn the *center* glass over and defy anyone to repeat the trick. You will notice you are giving the spectator a false start, making it impossible to do the trick.



It is possible to have a gold-colored badge that will remain golden colored no matter how many times you polish it. This is because HI-GLO is a special metal that was developed by V. H. Blackinton and is solid gold color throughout.

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New Publications for Your Fire Station Library!

Firemen's Training Centers

Suggestions on planning and building training facilities for fire fighters, together with descriptions of some of the major training schools in the United States. Prepared by a subcommittee of the NFPA Committee on Firemen's Training.

20 pages, illustrated, 8½ by 11 in.

$1.00 per copy

Specifications for Motor Fire Apparatus

Contains recommendations of the NFPA-IAFC Committee on Fire Department Equipment. Particularly useful for chiefs who are about to purchase a new pumper, tanker or aerial ladder, since it has specific recommendations on pumping capabilities, tank capacities and equipment necessary to meet the severe requirements of fireground service.

60 pages, illustrated, 4¾ by 7¼ in.

60 cents per copy

Tests of Heavy Stream Appliances

A report of tests conducted by a subcommittee of the NFPA Committee on Fire Department Equipment. It shows what flows and pressure losses resulted when modern heavy stream appliances of various sizes and capacities were tested, including portable turrets and ladder pipes.

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Christmas Folder

THE popular NFPA Christmas folder, "Watch Out for Fire, Too, at Christmas Time," is now available for distribution. It may be obtained in the following quantities: 100 folders for $2.50; 1,000 folders for $20. Imprinting space is provided on the back of each folder.

To order from the NFPA Publications Department simply specify G24C "Christmas Folder."

Longevity Insignia

A QUESTION has recently been raised regarding practices followed in various fire departments relative to insignia worn on uniforms to indicate length of service. A few fire departments merely issue a 25-year pin, with appropriate observance and festivities. However, others provide a gold maltese cross or gold star, worn on the uniform sleeve for each five years of service. Some fire departments provide service stripes for longevity, but these may be confused with stripes used to indicate rank.

Chaplain Retires

Captain Edward C. Spruill, chaplain of the Los Angeles County Fire Department, retired recently after 29 years of service. He started his career in the Fire Department on June 14, 1928, when he joined the Belvedere Fire Protection District of the County Fire Department. In 1934 he was appointed Captain and was assigned to Engine Company 28 in Flintridge. Captain Spruill is an ordained minister in the Church of the Nazarene and received his official appointment as chaplain of the Fire Department from the late Chief Cecil R. Gehr. Since 1954 he has served at the Los Angeles County Fire Department Headquarters as headquarters captain, which is the designation for the chaplain in that department. As a retirement gift, members of the Department donated their time and labor to construct a beautiful 1,500-sq.-ft. home in San Bernardino County. Above, congratulating Captain Spruill is Chief Keith E. Klinger (left), who commands the Los Angeles County Fire Department.

Ladder Pipe Evolution

(*Continued from page 11*)

der, the engine company lays two lines, connects them to the ladder pipe and secures the hose to the ladder as previously described.

With the standard 1⅝-in. ladder pipe tip of the Boston Department the method was not only faster but also provided 16 pounds more nozzle pressure and substantially greater flow than was obtained with an identical pump pressure and hose layout feeding a 3-in. line with a siamese at the base of the ladder.

Another advantage is that if one line fails, the stream would not be completely shut off while a burst section was being replaced as would be the case if the single 3-in. line failed. It was determined that without changing engine pressure a fair stream would be maintained.

The increased hydraulic efficiency permits a pump to supply a ladder pipe through longer lines than was possible under the old method. It was found that in an average layout a pump working at 150 lbs. could actually deliver 700 gpm at 80 lbs. nozzle pressure. If required, a 1,000-gpm pump can easily deliver this flow at 200 lbs. pump pressure. However, one of the objectives was to set up an evolution that would give good results at the normal pressure at which a pump was rated to give its capacity. Higher pressure can be applied as needed if the lines are long or if greater nozzle pressure is desired.

A further advantage of the method is that the problem of draining the lines on the ladder which has always been troublesome with ladder pipe work is eliminated because lines will be drained at the pump.

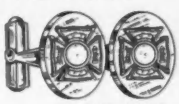
A question asked by a number of persons who have seen this new evolution is: "Why was not this method adopted years ago?" The answer is relatively simple. The first ladder streams were hand lines tied to ladders. Then when ladders became capable of supporting heavier streams from a special nozzle the size of hose was increased, retaining the single hose line on the ladder. In all too many cases it was impossible in practice to obtain a good 600-gpm stream which the 3-in. hose could deliver.

With the new method it is possible to provide 600- to 700-gpm streams very readily, and flows up to 1,000 gpm may be obtained where there is adequate pumping capacity and where the elevation of the ladder pipe does not exceed 50 feet.

Incidentally, all work loads using the two 2½-in. lines are well within limits recommended by the makers of aerial ladders.

NEW! FOR YOU!

NEW CAR EMBLEM — Wins traffic courtesies. Fits all cars. Bright red, polished. 4 in. size — $1.98.



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FD LAPEL BUTTON — Gold finish —Lacquered. You will proudly wear, $1.50.

FIREMAN T-SHIRT $1.49 Give size.

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For rural fire fighting the Champion is ideal because with the pump mounted conveniently up front you can nose the truck into position for drafting water from ponds and streams otherwise inaccessible and you can keep the rear driving wheels on firm ground. With a front pump you can use the full pay load of the chassis frame for a larger booster tank.

If you have special fire protection problems you can call on us for recommendations, specifications, quotations. We will follow your requests and suggestions faithfully and you will be proud to accept delivery of your new Champion Fire Apparatus secure in the confidence that the unit will perform capably and serve well to protect your citizens and property.

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"We use INDIANS on fires that look impossible for a small pump to handle but they have always held the fire until a line could be laid and *in most cases* have the fire out before the line is laid."

H. B. Wells, Fire Chief, Newbury, S. C.

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Both types of INDIAN FIRE PUMPS are approved by UNDERWRITERS' LABORATORIES, INC.

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CANADIAN AGENTS

Flack Bros. Limited, Vancouver, B.C.
C. E. Hickey & Sons, Ltd., Hamilton
Bison Hardware Co., Toronto

Teamwork Wins Appropriations

(*Continued from page 19*)

up started. This was mailed to the department and to the officers of the area firemen's association, if any, of which the department was a member. By persistent diligence, the post card reports finally tallied 287 Wisconsin fire departments that had actually mailed petitions to both of their legislators.

As each returned card was received, we determined its Senate Assembly District, credited the proper firemen's association, and added it to the previous total received by each legislator. Thereby every day we knew the number each had received. By map tacks for each petition turned in, we found the weak areas and could give them special attention.

The exact value and weight of these petitions on Wisconsin lawmakers is only a guess. As the sessions called to order for their daily work, the legislators seemed to take delight in sending their petitions up to the presiding officer. That had its effect, too, on those legislators from districts in which we had no member departments, and who therefore did not receive petitions.

Neutral observers have expressed the belief, at the end of the struggle, that the petitions were very effective when the final actions were taken months later. As an unexpected by-product, the legislators acknowledged that the petitions gave them an effective mailing list for future elections.

Identical bills had been introduced in the Assembly and Senate. Where there was any question in our minds about the attitude of Committee members, we telephoned department and association officers to contact personally the doubtful ones while they were at home over week ends.

Hearings before two legislative committees passed smoothly and favorably. The affirmative was presented by a prearranged team of firemen and friends from insurance, farm and municipality groups. The affirmative argument was prepared by dividing it up among the team for complete coverage of the subject with a minimum of repetition.

The team included members from the fire service: Chief Norman

Spiering of the Dodge County Association; Chief Joe Doherty of the Jefferson-Waukesha; Ardell Braun of the Eastern Wisconsin; Chiefs Pavlik, Benkert and Downie.

At the hearings, handouts and pictures were used. Movies were previewed and considered but rejected because of time limitation.

We were warned that we would have trouble at the third hearing, the one before the Assembly-Senate Joint Finance Committee. They had already established a reputation for tough economy. For this hearing, firemen throughout the State were alerted to be prepared to overflow the committee room.

Testimonials are good selling. So for distribution to this Committee, reproductions of letters were ready from such authorities in firemanship training as Robert C. Byrus, Director of Maryland training; Keith Royer, Director of Iowa; and B. Richter Townsend of the International Association of Fire Chiefs.

Copies of *Oklahoma Fire Service Practices for Volunteer Departments* were ready to show what would be taught in the Wisconsin training. Press releases were distributed to 287 country weeklies.

We were informed by Assemblymen that, without a public hearing, the Joint Finance Committee had already voted 7 to 3 for Indefinite Postponement. That was intended to be the end.

We now had two strikes against us; action would have to be immediate to get the bill back into motion. After conferences with Chief John E. Welsh, Mt. Hope, a veteran in promoting utility legislation, we decided:

To send to each legislator an individually typed letter expressing our best salesmanship;

To amend the bill to make it more palatable to the Joint Finance Committee and to the economy bloc of the legislature; and

To condition our own firemen membership to the acceptance of less than what they had intended. For this, a letter from Warren Y. Kimball of the National Fire Protection Association was reproduced and mailed to our member associations and to our workers.

(*Continued on page 29*)

FEDERAL BEACON RAY

WHAT'S A LIFE WORTH

You can't place a dollar and cents value on a human life. Certainly it's worth more than the price of an adequate warning signal. The first act of **any** department at the scene of a fire is to **save lives** rather than property. Large sums are spent for special ladders, nets, chutes, resuscitators and other **life saving** equipment. The use of this equipment for fire fighting is actually secondary. The difference between the price of a FEDERAL Beacon Ray and inferior warning lights can be the price of a human life. **Don't let a few dollars deprive it of any portion of the good it can do.**

$75.00 buys the best vehicle warning light in existence — the FEDERAL Beacon Ray! If your department is one of the few not so equipped — don't delay — order **now!**

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PLUS — 10 year guaranteed silver fused coat and cap attachments, center emblems and numbers

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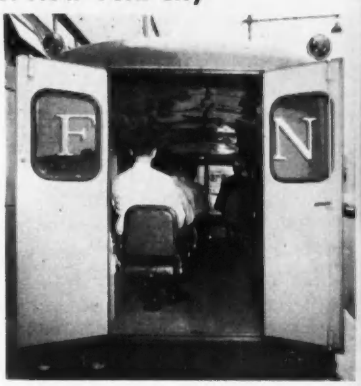
THE New York City Fire Department recently ordered four of these International Harvester 1½-ton panel trucks for assignment to four squad companies. The body of each truck is approximately 12 ft. long, 6 ft. high and 70 in. wide. The rear opening is 38 in. wide with two doors 62 in. high. There are three shatter-proof windows on each side of the apparatus. Two of these windows on each side may be opened for ventilation.

Fire fighters who respond on these vehicles will use safety belts which are attached to seats. The compartments on both sides of the interior of the vehicle can be used for seats or for stretchers. Each squad truck will be delivered with four Scott Air-Pak cylinders, an Emerson dual light portable resuscitator, four



MSA Chemox masks and carrying containers, six Burrell masks and other tools. Both the stretchers and resuscitation equipment can be utilized inside the vehicle, so that oxygen can be administered to a patient being transported to a hospital.

Sparky's Fire Prevention Sign

The Arlington County, Virginia, Fire Prevention Bureau, in cooperation with the Hecht Company, recently constructed the above sign for last Fire Prevention Week. Measuring 42 ft. by 45 ft., the sign contains 290 pieces of glass, each pane 5 ft. by 9 ft. with stainless steel dividers. Behind the glass panes white fluorescent lights 10 ft. long provide a soft glow of light. Letters used in display are white plastic on a blue canvas background, with each canvas drop 9 ft. wide and 15 ft. high. Sparky is shown in true color as depicted on brochures of the NFPA. Detailed planning for the attractive display was performed by E. L. Forsyth, display arranger for the Hecht Company's store.

FROST-PROOF DESIGN

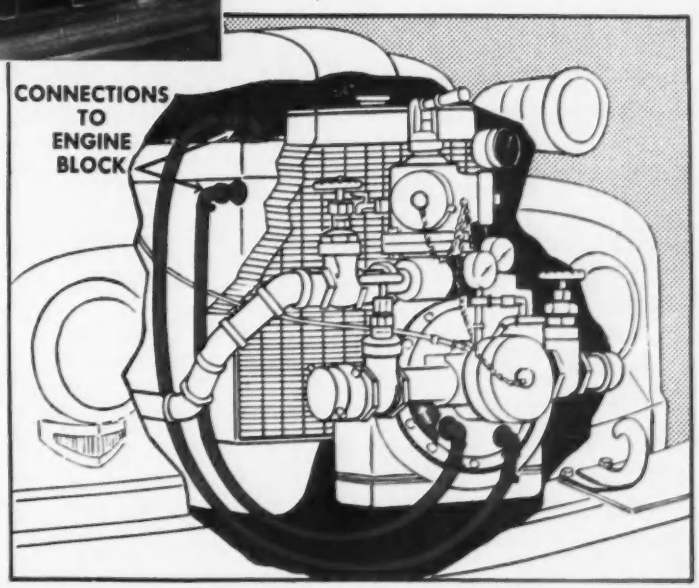
of Barton-American Type UA Front Mounted Fire Pump gives extra safety factor for winter operation

You never have to worry about your Barton-American Type UA Pump freezing! For this unique, effective *frost-proof design* gives you positive operation even in the coldest weather!

Water at engine temperature constantly circulates from engine cooling system through the cored suction head of the UA Pump. Even at sub-zero temperatures, this always keeps the pump well above the freezing point.

It's a closed system with no possible loss of radiator water or anti-freeze . . . operating on the same principle as a car heater.

In addition this feature of the UA Pump increases the summer cooling capacity of the system . . . gives you a cooler engine in hot weather as well as positive protection against freezing in cold weather!



Hose line circuit may vary with make of engine.

ONLY THE BARTON-AMERICAN TYPE UA PUMP GIVES YOU ALL THESE VALUABLE FEATURES:

- Is Easy to Install
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You, as a fire fighter, must know how to protect yourself and your community against such incidents.

This new book has 1,900 detailed accounts of dust explosions with 75 photographs of actual incidents. It reports the causes, casualties and property damage resulting from such explosions in the United States and Canada since 1890. By studying this information you can develop sound inspection programs as well as effective pre-planning for fire incidents.

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84 pages
6 by 9 inches
75 photographs

FIRE PROTECTION FOR CHEMICALS

What do you know about chemicals? Know how to make a fireground size-up of a chemical plant?

This book will lead you to the answers.

Assistant Chief Charles W. Bahme, head of the Los Angeles Fire Department's Bureau of Personnel Training, tells fire fighters about the handling and storing of chemicals. He describes each chemical briefly and suggests proper fire protection and fire fighting techniques.

Here, for example, are some of Chief Bahme's comments:

> **"Aldehydes are usually volatile, flammable, soluble in water, and have a sharp penetrating odor. . . .**
>
> **"They possess the widest range of chemical activity of any class of organic chemicals. . . .**
>
> **"Water can be used in fighting aldehyde fires, the same as for alcohol; care should be taken to avoid prolonged breathing of fumes. The unsaturated aldehydes, acrolein, is flammable and highly toxic."**

Clothbound — $3.00
152 pages
5⅜ by 8¼ inches

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☐ **Check for $** .....**enclosed.** ☐ **Please send bill.**

What other reference books do you have in your fire station library?

Teamwork Wins Appropriations

(*Continued from page 25*)

The bill was dead, unless it could be taken from the Committee and brought out onto the Assembly floor; and that could be done only with the consent of the Committee chairman and the Assembly.

The objections most frequently made against the bill were:

1. It set up a new field of state expense, which would probably continue for many years.
2. The watchword of the majority was economy in government, and
3. Wisconsin fire losses were lower than in many adjacent states, so Wisconsin firemen must be doing a good job, and no further training was necessary.

While a majority party caucus was in session, Harvey Ott of the Southern Wisconsin-Northern Illinois and other loyal fire fighters agreed that we would permit the reintroduction of the previous Hagen Amendment, relinquishing a part of the 2 percent premium tax.

Mr. Hagen reintroduced the amendment, which passed by a vote of 84 to 5. The Upper Chamber, which was thought to be more adverse than the Assembly, passed the bill, 26 to 3. About a month later the Governor signed the bill making an annual appropriation of $30,000 for each of the next two years, and designating the State Board of Vocational and Adult Education to administer the training.

Thus was born Chapter 453 of the Laws of 1957, State of Wisconsin.

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The National Preparatory Institute offers a course of instruction in Fire Prevention, Fire Protection and Fire Fighting which will help you to improve your knowledge of fire field subjects and assist you in your studies for promotion.

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REGULATION and DROP BRIM STYLES

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SINCE 1836

We can supply, in addition, everything the fireman needs for his personal equipment. Write for Catalog 350.

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Better Hose Care with CIRCUL-AIR
HOSE CONDITIONING EQUIPMENT
WASHERS • DRYERS • TURN-TABLES • STORAGE RACKS

FIRE HOSE DRYER

The patented, electrically operated Circul-Air hose dryer circulates prewarmed fresh air through loosely coiled hose at the rate of 5 to 6 air changes per minute. Saves floor space, hard work and lengthens hose life. No other drying method is so fast — so economical — so easy to use. Circul-Air is the preferred drying method in over 4,000 leading Fire Departments.

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Roto-Jet **AUTOMATIC FIRE HOSE WASHER**
WASHES — RINSES — DRAINS HOSE

Washes, Rinses, Drains hose thoroughly and quickly. Simple, one-man operation. Ashes, dirt, mud and sludge are automatically scrubbed out and flushed away. Saves time. Lengthens hose life.

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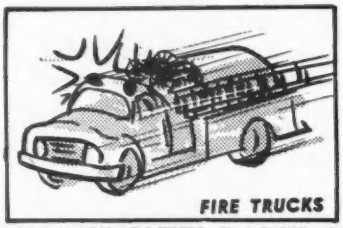
Kay-Lab Flashers for Warning Lights

"KAY-LAB" FLASHERS are specified by many fire depts. Repeatedly the choice of City, County and State governments requiring flashing lights on emergency vehicles because only "Kay-Lab" has the features specified.



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"STOP-IT" SAFETY FLASHER FOR "CHIEFS" CAR

Makes lights flash on-and-off. Used for flashing warning signals and directional signals. Continues to burn lamps with a steady light in event of failure. Available in 4 types. Will flash one, two, three, four or any combination of lamps up to 6 amperes without matching flasher to load. 6 and 12 volts.

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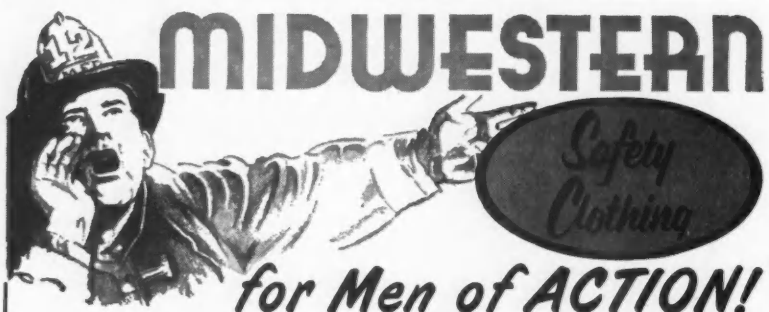

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Membership Report

WITH membership in NFPA now exceeding 17,000, the Association has started a new program to reach the goal of 20,000 members. Any member of the Association who wants to assist in this drive can get promotional materials and application blanks for prospective members by writing to the NFPA Executive Office.

NFPA Welcomes the following chiefs and fire departments who recently have joined the Association.

Alabama: Kinston Fire Department, Kinston; Opelika Fire Department, Opelika.

Arizona: Payson Volunteer Fire Company, Payson.

British Columbia: Kitimat Fire Department, Kitimat; North Vancouver Fire Department, North Vancouver.

California: Chino Fire Department, Chino; Walton Fire Department, Yuba City.

Georgia: DeKalb County Fire Department, Decatur.

Illinois: Nottingham Park Fire Department, Chicago; Cordova Fire Protection District, Cordova; Chief Edgar Smith, Lincoln Fire Department, Lincoln; Chief Lynn C. Ray, North Park Fire Department, Rockford.

Kentucky: Lyndon Fire Department, Lyndon.

Manitoba: Churchill Volunteer Fire Department, Churchill.

Michigan: Lansing Township Fire Department, Lansing.

New Hampshire: Somersworth Fire Department, Somersworth.

New York: AuSable Forks Fire Department, AuSable Forks; Nester Hose Company, Geneva; Woodstock Fire Company No. 1, Woodstock.

North Carolina: Gastonia Fire Department, Gastonia; Rosehill Volunteer Fire Department, Rosehill.

Ohio: Amberley Village Fire Department, Amberley Village, Cincinnati; Jewell Volunteer Fire Department, Jewell.

Pennsylvania: Catawissa Hose Company, Catawissa; Mansfield Hose Company, Mansfield; Rolling Hills Volunteer Fire Company, Pittsburgh 34.

Quebec: Pompiers Volontaires Pte-Gatineau, Gatineau Point.

Tennessee: Nashville Fire Department, Nashville.

Texas: Los Fresnos Volunteer Fire Department, Los Fresnos.

Utah: Washington Terrace Fire Department, Ogden.

Virginia: Falls Church Volunteer Fire Department, Arlington.

Wisconsin: Milltown Community Fire Association, Milltown.

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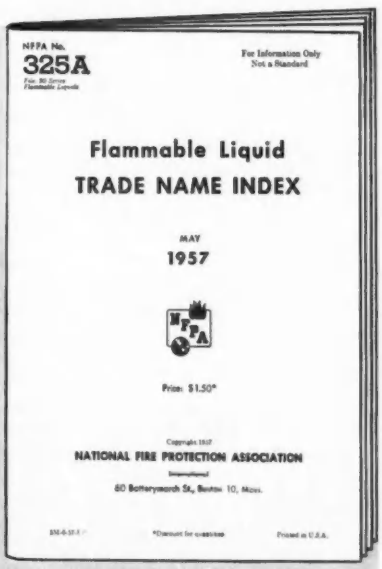

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NFPA Official Calendar of 1958

BROWN AND BIGELOW, St. Paul, Minnesota, again is publishing the official calendar of the National Fire Protection Association. The illustration for the 1958 edition is shown at left. Titled "Me, Too," the original painting shows a small boy washing his fire engine and imitating the fireman who performs a similar chore on company apparatus.

The original painting was done by Artist William C. Griffith, who has done many outdoor picture covers for magazines of general circulation, such as the *Saturday Evening Post, Sports Afield, American Magazine* and the *Country Gentleman*.

The 1958 calendar is personalized for the particular community by including the name and telephone number of the fire department as well as the name of the merchant or organization that sponsors distribution of the calendar. Underneath the calendar pad on the back page is a description of the National Fire Protection Association and its nonprofit operations and activities in the interest of fire protection and fire prevention.

This is the third consecutive year in which the Company has produced the official NFPA calendar and its 61st year of operation. The calendar is available in the following sizes: 29 by 43 in., 18 by 27 in. and 14 by 21 in.

Additional information may be obtained by writing to Brown and Bigelow, St. Paul, Minnesota.

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this month's EQUIPMENT NEWS

LP Gas Floodlight

William W. Lee & Son, 20 East Jackson Boulevard, Chicago 4, Illinois, is manufacturing an LP gas floodlight. The light is reported to be approximately 6,000 C.P. (candlepower) and can be operated for 50 hours on a 20-lb. tank of LP gas at 15 lbs. pressure or for 150 hours at 3 lbs. pressure. Model BL-64 can be lighted with a match and will operate in temperatures down to 40 degrees F. Write to manufacturer for more information. For recommendations on the use and storage of gas cylinder appliances see NFPA Standard No. 58 — "Storage and Handling of Liquefied Petroleum Gases."

Folder on Pumper

Blitz Buggy Company, Inc., of Old Forge, New York, has published an attractive 4-page folder describing the pumper it manufactures for fire departments. The pumper has a 2-stage, 300 gpm high pressure midship centrifugal pump which provides pressures up to 800 lbs. It has two 3-in. suction intakes, one 2½-in. and two 1½-in. gated dischargers. There is also a 2½-in. gated intake for connecting to a portable pump or tanker. The chassis also carries a 200-gal. removable booster tank and has a compartment for 800 ft. of 1½-in. hose. Copies of the folder may be obtained by writing to the manufacturer at the above address.

New Alarm System

The Gamewell Company of Newton Upper Falls, Massachusetts, has announced a new fire alarm combination box which includes a telephone for reporting public emergencies. Called the "Gamewell Combination System," it utilizes the existing telegraph fire reporting system as well as special telephone voice circuits connected to police headquarters or elsewhere. Two types of systems are available: one has a combination fire-public emergency alarm box; and the second is for exclusive police department use over privacy alarm circuits. Additional information is available from the Company at the above address.

●

A new remote-control unit for 2-way radio base stations and a new RF signal generator for mobile radio service have been announced by *Motorola, Inc.*, Communications and Industrial Electronics Division, 4501 West Augusta Boulevard, Chicago 51, Illinois. . . . *Mine Safety Appliances Company*, Pittsburgh, Pennsylvania, has produced a new bulletin describing the various items in NSA aluminized asbestos safety clothing. The clothing is designed particularly for fire fighting and for working in high temperature industrial plant operations. Copies of the new bulletin may be obtained free from the Company. Ask for MSA Bulletin 1301-7. . . . *Bendix Aviation Corporation*, Baltimore, Maryland, has announced that Gilbert D. Doroff has been promoted to national sales manager of mobile products, and that Frank R. Viafora will be the new midwest regional manager for the Company's 2-way mobile products. . . . Four senior vice presidents have been elected by the board of directors of the *Fyr-Fyter Company*, Dayton, Ohio. According to board chairman, William M. Wetzel, they are David McGilvray (administration) of Norwalk, Connecticut; A. C. Trautwein (marketing) and Charles H. Somers (manufacturing), both of Dayton, Ohio; and James J. Dunleavy (in charge of Newark operations) of Newark, New Jersey.

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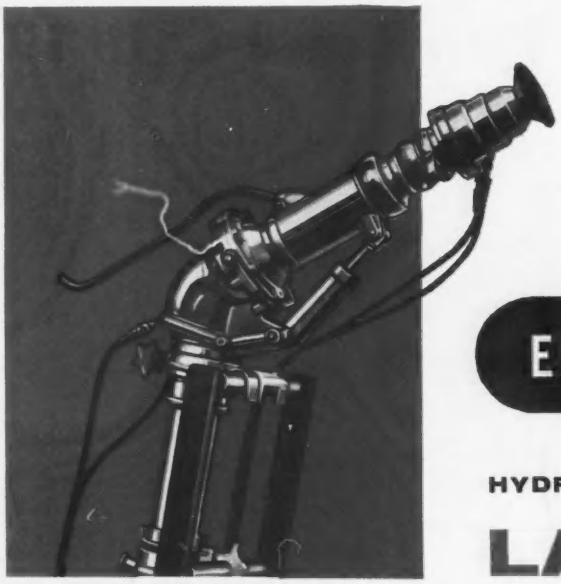


Announcing

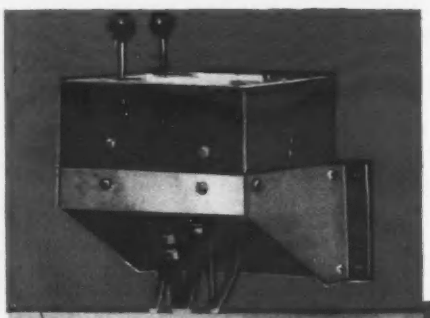
the

NEW

ELK-VOGT REMOTE

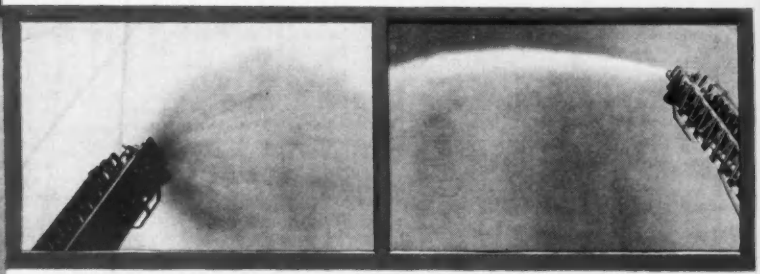
HYDRAULIC REMOTE CONTROLLED

LADDER PIPE



Right at the control box one operator *alone* can handle the complete job assigned to this new *Elk-Vogt Remote* Ladder Pipe unit. By moving the levers on the control box the operator can change the elevation of the ladder pipe and control the stream pattern. Four charged hydraulic lines from the control box lead to rams which in turn serve to raise or lower the pipe or change the stream pattern. The control box is portable and can be placed in a location that best meets the needs of the fire fighting job at hand. The unit is equipped with an Elkhart Mystery Fog Nozzle for choice of straight stream through all degrees of fog.

The Elk-Vogt Remote has a full 3½" waterway which practically eliminates friction loss in the ladder pipe. Hydraulically controlled Fog Nozzle is available in either 500 or 1000 G.P.M. To meet the National Board of Fire Underwriters' requirements the Elk-Vogt Remote ladder pipe can be operated manually.



The photographs above and at lower left were taken at a demonstration by the Memphis Fire Department and are used through the courtesy of Chief John C. Klinck. Note the fog pattern at the left and the straight stream at the right. Stream changes are selected and the pipe raised or lowered by the operation of levers on the control box. This control box is portable.

CHIEFS! Here are the winners of Elkhart's "Name The Nozzle Contest"

At the recent IAFC Conference in New Orleans we held a contest to name the new Remote Controlled Ladder Pipe unit. So that no personal names would appear on entry card we had each entry blank numbered. Check your card, Chiefs . . . here are the winners.

No. 344 (First prize a $100 U.S. Savings Bond.)
No. 32 (Second prize a $50.00 U.S. Savings Bond.)

Mail your card and name and address to us now. It's your prize.

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